

W1492-01MW

Taiwan Patent Publication No. 509349

Publication Date: November 01, 2002

Application No. 090210679

Application Date: June 26, 2001

Title of the Invention:

A liquid-cooling heat-dissipating device for computer components

751986

引例 509349

1. A liquid-cooling heat-dissipating device for computer components comprising:

a socket (10) having a top plate (11) and a wall plate (12) extending from peripheral edge of the top plate downward, an cavity (13) defined by the top plate and the wall plate, at least a spacer (14) protruding from a bottom surface of the top plate and being oriented to the cavity, the cavity being divided by the spacer into an introducing channel (15) and an exhausting channel (16) which communicate with each other, an inlet (17) allowing a coolant to flow into and an outlet (18) allowing the coolant to flow out being respectively provided on the top plate and corresponding to the introducing channel and the exhausting channel;

a plate-like conductor (20) made of material with high conductivity and having a top surface (21) for sealing an opening of the cavity and a bottom surface (22) for abutting against the computer component, a plurality of fins (23) protruding from the top surface upward and being received in the cavity, a tunnel (24) being defined between two neighboring and opposite side surfaces for dissipating heat, each fin having a plurality of penetrating portion (25) which penetrates two side surfaces of the fins;

whereby the coolant is introduced through the inlet into the cavity by a pump (30) to perform heat exchange so as to dissipate heat generated by the computer component.

2. The liquid-cooling heat-dissipating device for computer components as claimed in claim 1, wherein the inlet and the outlet are respectively arranged beside two sides of the spacer and a gap (I) is defined between top portion (232) of the fins and the top plate, and wherein the gap communicates with top portion of the tunnel and allows the coolant to flow through.

3. The liquid-cooling heat-dissipating device for computer components as claimed in claim 1, wherein the spacer and the fins are aligned with each other longitudinally, and the spacer is engaged into one of the tunnels, and a passage (141) which communicates the introducing channel and the exhausting channel is defined between a side end of the spacer and the wall plate.

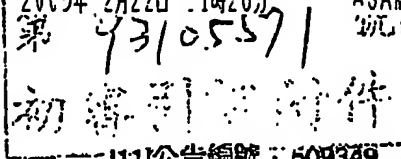
**Brief Description of the Drawings:**

Fig. 1 is a perspective view showing a conventional heat-dissipating device;

Fig. 2 is an exploded perspective view illustrating a preferred embodiment of a heat-dissipating device according to the present invention;

Fig. 3 is an assembled sectional view of the preferred embodiment showing in Fig. 2, illustrating connection between a socket and a conductor; and

Fig. 4 is a sectional view taken along line 4-4 in Fig. 3.



## 中華民國專利公報 [19] [12]

[11]公告編號：509349

[44]中華民國 91年 (2002) 11月01日

新型

全 4 頁

[51] Int.Cl<sup>07</sup> : G06F1/20

H05K7/20

[54]名稱：液冷式電腦元件散熱裝置

[21]申請案號：090210879

[22]申請日期：中華民國 90年 (2001) 06月28日

[72]創作人：

蕭傑仁

台中市北區育德路二一五號二樓

[71]申請人：

蕭傑仁

台中市北區育德路二一五號二樓

[74]代理人：憐聯群 先生

陳文郎 先生

1

2

[57]申請專利範圍：

1. 一種液冷式電腦元件散熱裝置，包含：

一座體，具有一頂板及一由該頂板周緣向下延伸的壁板，二者相配合界定出一凹孔，該頂板底面至少設有一朝該凹孔凸設的隔板，藉該隔板可在凹孔中區隔出可互相連通的一引入道及一引出道，對稱於該引入道及引出道之頂板上又各設有一可供冷卻液流入的入口及一可供冷卻液流出的出口；

一導體，是以高熱傳導係數之材質製成板塊狀，具有一可封設在該凹孔開口的頂面及一可緊貼於電腦元件的底面，該頂面向上凸設有多數可伸設在凹孔中的散熱片，在相鄰二散熱用的相對側面之間即設有槽道，各散熱片上均設有數個可貫穿二側面的貫穿部；

藉此，利用一泵浦強制將冷卻液經

入口導入該凹孔內部進行熱交換時，可達到電腦元件散熱目的。

2. 依據申請專利範圍第1項所述之液冷式電腦元件散熱裝置，其中該入口與出口分別設於一隔板的兩側，且該散熱片頂端部與頂板之間產生一供冷卻液流通的間隙，該間隙與槽道頂部相通。

3. 依據申請專利範圍第1項所述之液冷式電腦元件散熱裝置，其中該隔板之長方向對稱於該散熱片之長方向，且隔板嵌套在一槽道內部，在隔板側端與壁板之間設有一可貫通引入道及引出道的流通部。

15. 圖式簡單說明：

第一圖是現有一種散熱裝置的立體示意圖；

第二圖是一分解立體圖，說明本創作之散熱裝置的一較佳實施例；

第三圖是該較佳實施例之組合

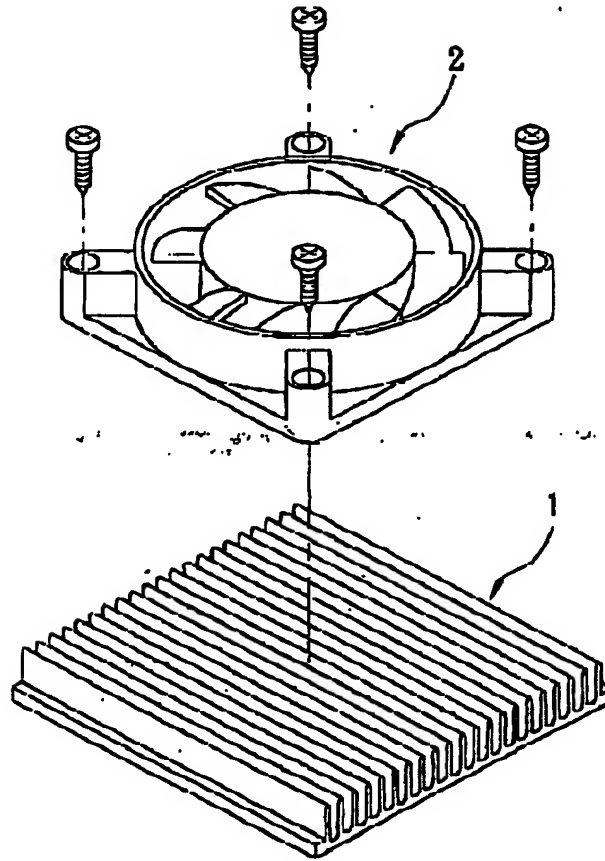
(2)

3

4

剖面圖，說明一座體與一導體固結之  
示意圖；及

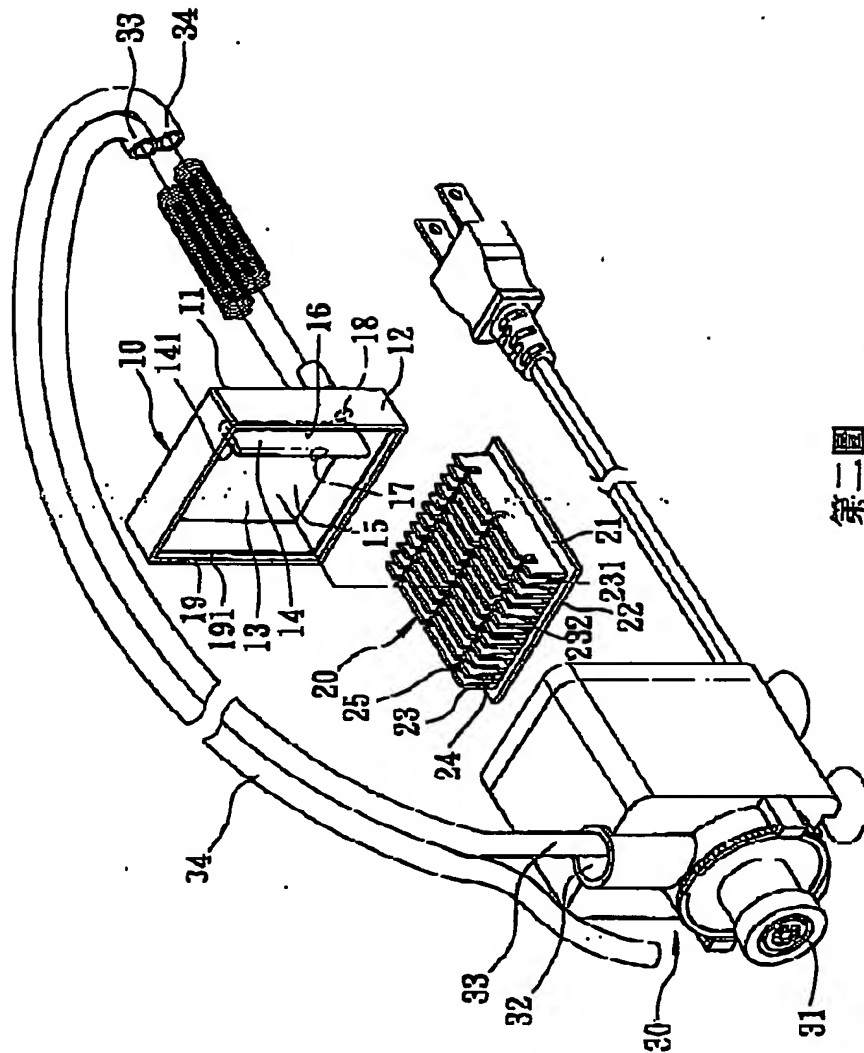
第四圖是沿第三圖中之線 4-4 的  
一剖面圖。



第一圖

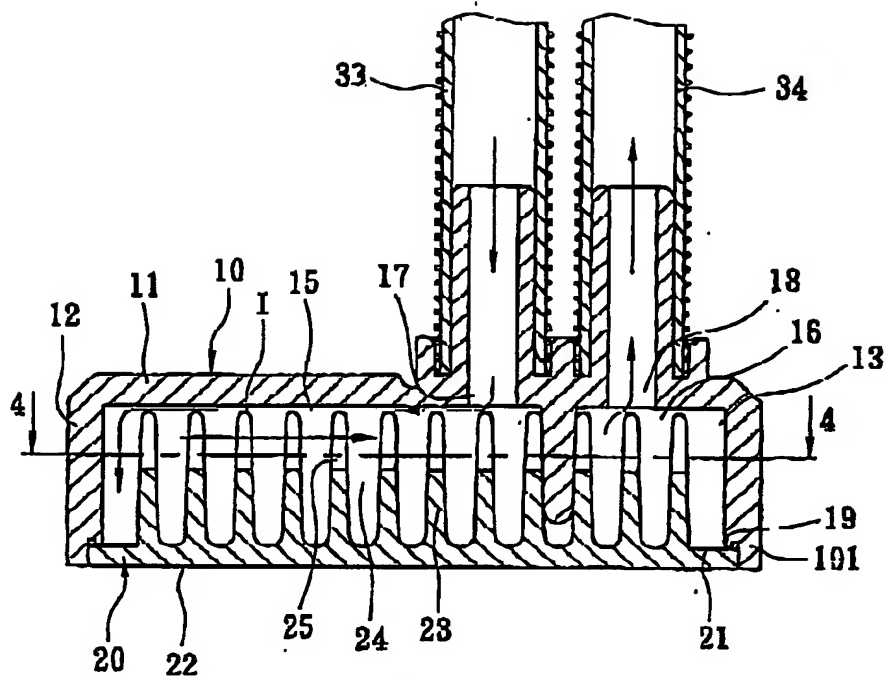
9266 —

(3)



第二圖

(4)



第三圖

第四圖

